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AN ANALYSIS OF THE ARMY ACQUISITION CORPS

by

Eric M. Huffman

December, 1991

Thesis Advisor:

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92-29057



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Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188		
1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS			
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.			
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE						
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)			
6a. NAME OF PERFORMING ORGANIZATION Naval Postgraduate School		6b. OFFICE SYMBOL AS	7a. NAME OF MONITORING ORGANIZATION			
6c. ADDRESS (City, State, and ZIP Code) Monterey, CA 93943-5000			7b. ADDRESS (City, State, and ZIP Code)			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION		8b. OFFICE SYMBOL	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER			
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS			
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Including Security Classification) An Analysis of the Army Acquisition Corps						
12. PERSONAL AUTHOR(S) HUFFMAN, Eric M.						
13. TYPE OF REPORT Master's thesis		13b. TIME COVERED FROM TO		14. DATE OF REPORT (Year, Month, Day) 1991, December		15. Page Count
16. SUPPLEMENTAL NOTATION The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.						
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)			
FIELD	GROUP	SUB-GROUP	Army Acquisition Corps, Material Acquisition Management Program (MAM), Viability Strengths and Weaknesses.			
19. ABSTRACT (Continue on reverse if necessary and identify by block number)						
<p>This thesis presents an analysis of the Army Acquisition Corps. The Packard Commission and the Army's Material Acquisition Management program are used to develop issues and questions concerning the selection, education, training, and assignment policies for Army Acquisition Corps officers. A detailed description of the Army Acquisition Corps is provided. Data is presented based on the personal interviews conducted with fourteen Army program managers using the issues and questions as a standard interview script. The data is analyzed and conclusions are made on the structure and policies of the Army Acquisition Corps. The basis concept and structure of the Army Acquisition Corps are validated by the responses to the interview questions. Recommendations are made to improve the Army Acquisition Corps.</p>						
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC			1a. REPORT SECURITY CLASSIFICATION			
22a. NAME OF RESPONSIBLE INDIVIDUAL David V. Lamm			22b. TELEPHONE (Include Area Code) (408)646-2775		22c. OFFICE SYMBOL AS/Lt	

Approved for public release; distribution is unlimited

An Analysis of the Army Acquisition Corps

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Submitted in partial fulfillment of  
the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT


from the

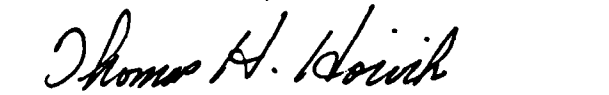
NAVAL POSTGRADUATE SCHOOL  
December 1991

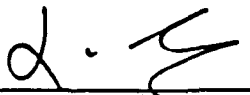
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## ABSTRACT

This thesis presents an analysis of the Army Acquisition Corps. The Packard Commission and the Army's Materiel Acquisition Management program are used to develop issues and questions concerning the selection, education, training, and assignment policies for Army Acquisition Corps officers. A detailed description of the Army Acquisition Corps is provided. Data is presented based on the personal interviews conducted with fourteen Army program managers using the issues and questions as a standard interview script. The data is analyzed and conclusions are made on the structure and policies of the Army Acquisition Corps. The basic concept and structure of the Army Acquisition Corps are validated by the responses to the interview questions. Recommendations are made to improve the Army Acquisition Corps.

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DTIC	TAB <input type="checkbox"/>
Unannounced <input type="checkbox"/>	
Justification .....	
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Distribution /	
Availability Codes	
Dist	Avail and/or Special
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## **I. INTRODUCTION**

### **A. BACKGROUND**

The United States Army established the Army Acquisition Corps (AAC) in 1989. This was done in response to congressional legislation, several General Accounting Office (GAO) reports, studies by groups outside the U.S. Government, and also a sense within the Army hierarchy itself that the Army's program for developing those personnel that would be entrusted with the responsibility for acquisition of equipment was not as formal or structured as it should be. The Army Acquisition Corps is the latest in the evolution of programs the Army has utilized to select, educate, train, and assign those personnel who are responsible for the procurement of the equipment the Army requires to perform its mission.

The arrival of the Reagan administration brought with it the support for the largest peacetime buildup of military forces in the history of the United States. This massive effort involved the purchase of millions of dollars worth of military hardware to allow the United States to strengthen its position as a world military power. The financial support for this endeavor had to come from the U.S. Government through the congressional authorization and appropriations process. In the early 1980s it appeared as though any military equipment that was requested was approved by the "purse-holders" in



Congress, but as the decade wore on two factors turned the atmosphere of a "blank check" for military spending to one of a more cautious "do we really need this" attitude.

The first involves the now infamous stories of outrageous prices paid for military equipment such as coffee-makers, toilet seats, and hammers and the media attention that these incidents generated. This caused the American public to start questioning how well the acquisition of materiel was being accomplished and more importantly, how qualified those responsible for this action actually were.

The second major factor was the political upheaval of the late 1980s that resulted in the collapse of the Warsaw Pact as a military alliance and with it the reduction in the perceived need for a major military role for United States forces in Europe.

These two factors have combined for a new and more heightened attention on the U.S. military establishment's role in the world. This has already led to the plans for a major reduction in military spending.

In light of the fact that the United States Army will still have a mission to be performed, the money it receives to accomplish this mission will have to be spent in an environment of shrinking defense budgets and continued public scrutiny on how well it is spent. The members of the Army Acquisition Corps will have the largest and most visible role in seeing that the money provided is spent wisely, and public

perception and opinion of how well this is done will be a testament of the success of the Army Acquisition Corps.

## **B. OBJECTIVES**

This thesis has two main objectives. They are as follows:

1. Determine what major problems have already been identified with current and past acquisition personnel qualifications, training, and career paths. A survey of previously conducted studies and reports will be utilized.
2. Analyze the current Army Acquisition Corps actions for solving these issues in order to develop a stronger Army acquisition work force. Research methodology included questionnaires and personal interviews with currently serving Army program managers.

## **C. RESEARCH QUESTIONS**

### **1. Primary Research Questions**

- a. How well does the Army Acquisition Corps address the issues that Army officers have historically had while serving as program managers?
- b. What education, training, and experience provide the necessary prerequisites for a successful assignment as a program manager?

### **2. Subsidiary Research Questions**

- a. What programs were used to train program managers prior to the establishment of the Army Acquisition Corps?
- b. What were the significant studies, reports, and legislation that led to the establishment of the Army Acquisition Corps and what problems did these documents uncover?
- c. What is the Army Acquisition Corps - How are Army officers selected, educated, trained, and assigned and what are the selection and assignment policies for the career path of the Army Acquisition Corps officer?
- d. What do Army program managers who are currently serving in field artillery type programs believe were the critical aspects that prepared them for their positions?

- e. What is effective in the current career model for the Army Acquisition Corps officer and what improvements can be incorporated into the model?

#### **D. SCOPE**

The scope of this thesis is restricted to Army officers serving as program managers. This is an important restriction as each branch of the military is involved in acquisition and each has branch specific policies and procedures. All the military branches must deal with the same laws and Department of Defense regulations yet each has a different way of structuring, organizing, and implementing their programs to accomplish training of their acquisition personnel.

The Army Acquisition Corps is the Army's unique program for the selection and training of its own procurement personnel. The scope of this thesis is further restricted to the military personnel side of the AAC. This is an important distinction since the AAC actually is composed of both civilians and military personnel.

#### **E. LIMITATIONS**

Due to time and fiscal constraints, the sample size considered only program managers in field artillery type programs. Therefore the sample size was limited to fourteen program manager positions.

Since the sample size was small, the researcher administered the questionnaire through personal interviews with individuals serving in the selected programs. This method provided insurance that the desired individual was in

fact the appropriate respondent and also allowed the interviewees to go into more specific detail in their answers to the questions posed. During the research segment two of the original program managers that were selected had to be dropped due to unforeseen scheduling problems that conflicted with the originally agreed to schedule.

#### **F. LITERATURE REVIEW**

Preliminary research for this thesis included a thorough examination of the literature base through the Defense Logistics Studies Information Exchange (DLSIE) and course material from MN3301, Systems Acquisition and Program Management, taught at the Naval Postgraduate School. The proponent office of the Army Acquisition Corps, located at Army Materiel Command headquarters, also provided written reference material and information on the program offices themselves.

#### **G. RESEARCH METHODOLOGY**

The methodology used in developing this thesis was as follows:

1. The research question was chosen.
2. An initial literature review was conducted using course materials, and information provided by the DLSIE search along with information provided by the AAC proponent office. This step involved correlating the issues and problems that previous studies had found with Army procurement personnel.
3. The questionnaire used to standardize the information provided by program managers was developed.

4. The method of data collection using personal interviews was decided upon along with the selection of the program managers to be interviewed.
5. The program offices selected for the thesis were contacted telephonically and interviews were scheduled with each of the program managers.
6. The researcher traveled to the selected program offices and the interviews were conducted. All the interviews were conducted using a common questionnaire and were recorded on audio tape for further analysis.
7. Interview materials were reviewed and analyzed and the thesis report was drafted.

#### **H. THESIS ORGANIZATION**

Chapter I introduced the reader to the purpose and methodology of this thesis, along with the research questions to be answered.

Chapter II will describe the problems that various studies have found in the career development of Army officers in the acquisition field. A brief description of the Material Acquisition Management (MAM) program is also included.

Chapter III will give a detailed description of the Army Acquisition Corps (AAC). The implementation plan will be described along with a complete explanation of the career development model.

Chapter IV will present and analyze the information collected through the researcher's personal interviews. Fourteen Army officers were interviewed and their responses to a standard script of questions provided the primary research material for this thesis.

Chapter V is a compilation of the researcher's conclusions and recommendations to improve the Army Acquisition Corps.

## **I. TERMINOLOGY**

Many military acronyms are used throughout this thesis. Those that are not commonly known are explained. Additionally, the term "program manager" is used liberally in this thesis. Army officers performing management functions in acquisition have different titles. "Product Manager" is the title for a management position that requires a Lieutenant Colonel by personnel authorization documents. "Project Manager" is the title for a position that requires a Colonel. Unless specifically stated otherwise, the term "Program Manager" is used to refer to either case above. The term "program management" is used in the same sense, and refers to the management of any product, project, or program regardless of the rank authorization.

## **II. BACKGROUND**

### **A. INTRODUCTION**

This chapter will discuss the background of the Army Acquisition Corps (AAC) through a review of the major findings of studies and commissions on the problems found in the Army's programs and policies regarding its military acquisition workforce. A brief description of the Army's Material Acquisition Management (MAM) program the immediate predecessor to the AAC, will follow as a baseline reference for explanations and evaluations of the AAC.

### **B. THE PACKARD COMMISSION**

A major defense management study in recent years, is commonly referred to as the Packard Commission Report, Was the report of the President's Blue Ribbon Commission on Defense Management, "A Quest for Excellence, Final Report to the President".[Ref. 1] The Commission was headed by David Packard, a widely known and respected businessman, who had served as Deputy Defense Secretary during the Nixon and Ford administrations (1968-1976). Packard became familiar with the career paths of military officers during his tenure in the Department of Defense (DoD). He recognized the clear path to success for operational commanders and the lack of such a path for military officers working in the procurement field. In November 1983, Packard expressed his concern on this matter to

the Senate Armed Services Committee some three years before his Commission would release their results:

I believe that each service should be restructured to have two clearly defined and separate career paths for the development of officers. One should be to train men and women as commanders of military forces. The other would be to train men and women as managers in procurement. [Ref. 2:p. 192]

Mr. Packard and the members of his committee were tasked by President Reagan to conduct a study of defense management and organization and to report their findings and recommendations.

The study took a year and, although not specifically designed to investigate military procurement, made findings and recommendations targeted at the way materiel acquisition was performed. The final report was presented to the President on June 30, 1986. The Packard Commission supported a number of reforms in defense management grouped into the following categories:

- 1) National Security Planning and Budgeting
- 2) Military Organization and Command
- 3) Acquisition Organization and Procedures
- 4) Government-Industry Accountability

Each of these categories was the title of a chapter in the final report [Ref. 1:p. vii]. The third chapter of the report was specifically targeted at issues in defense acquisition and cited a number of areas in need of reform and suggestions for their improvement.



Major issues in personnel management were identified and the Commission recommended that DoD take action on their findings. The Commission's method of study was described as follows:

We compared the defense acquisition system with other systems, both government and commercial, that develop and produce equipment of comparable complexity, in order to find success stories that could provide a model on which reforms of the defense acquisition system could be based. Defense acquisition represents the largest and, in our judgment the most important business enterprise in the world. It deserves to be managed with the highest standards. We therefore conducted a "search for excellence" by examining organizations that had been most successful in acquisition, in order to find a model of excellence for defense acquisition. [Ref. 1:p. 41]

The difficult job of a program manager was clearly recognized by the Packard Commission in its final report when it stated:

The program manager finds that, far from being the manager of the program, he is merely one of the participants who can influence it. An army of advocates for special interests descends on the program to ensure that it complies with various standards for military specifications, reliability, maintainability, operability, small and minority business utilization, and competition to name a few. Each of these advocates can demand that the program manager take or refrain from some action, but none of them has any responsibility for the ultimate cost, schedule, or performance of the program. [Ref. 1:p. 46]

In researching a successful model to emulate, the Packard Commission compared the Defense Department policies and procedures to those of other large institutions that had managed programs of similar complexity. Private industrial firms such as IBM, Boeing, and AT&T were examined to try to identify a common set of successful principles. In the final report, four underlying features were identified as being

implementable in the Defense Department's acquisition workforce:

- 1) Clear command channels.
- 2) Stability.
- 3) Small, high-quality staffs.
- 4) Communications with users. [Ref. 1:p. 50]

The AAC has, in ways to be described in Chapter III, incorporated the four features the Packard Commission described above by establishing clear command channels, enhancing stability through revised tenure rules for program managers, taking action to produce small, high-quality staffs, and allowing for communications with users to be facilitated.

The Packard Commission's section that deals with improving the quality of acquisition personnel opens with the following:

DoD must be able to attract and retain the caliber of people necessary for a quality acquisition program. Significant improvements should be made in the senior-level appointment system. The Secretary of Defense should have increased authority to establish flexible personnel management policies necessary to improve defense acquisition. An alternate personnel management system should be established to include senior acquisition personnel and contracting officers as well as scientists and engineers. [Ref. 1:pp. 65-66]

The Packard Commission further states:

Our study convinces us that lasting progress in performance of the acquisition system demands dramatic improvements in our management of acquisition personnel at all levels within DoD. [Ref. 1:p. 66]

The Packard Commission also targets the lower levels of the acquisition workforce by saying:

Comparable improvements also are required for effective middle management and better line personnel. The defense acquisition workforce mingles civilian and military expertise in numerous disciplines for management and staffing of the world's largest procurement organization. Each year billions of dollars are spent more or less efficiently, based on the competence and experience of these personnel. Yet, compared to its industry counterparts, this workforce is undertrained, underpaid, and inexperienced. Whatever other changes may be made, it is vitally important to enhance the quality of the defense acquisition workforce--both by attracting qualified new personnel and by improving the training and motivation of current personnel. [Ref. 1:pp. 66-67]

It is clear that although the Packard Commission dealt with a wide range of problems in defense management, they specifically mentioned a need for quick reform to improve the quality of the acquisition workforce. The Army Acquisition Corps was developed and established to achieve this end.

The Packard Commission's findings were not a complete surprise to the Army. Prior to the release of the Commission's report there was evidence within the Army to suggest that dissatisfaction existed over the lack of success in training program managers. General Henry A. Miley, USA (ret.), commented in 1984 that:

...the Army is not completely satisfied that the project managers which OPMS [Officer Personnel Management System] (and its predecessor system) has produced over the last twenty or so years have uniformly achieved the same level of success as its Combat Commander group. The Army's project managers have been on the "acquisition battlefield" continuously since 1962. Even though many weapon systems have been developed and deployed during that period, the Army's perception is that at least some of the programs were not as successful as they could have been. Further, there is a perception that the quality and performance of the project managers have been contributing factors. The accepted indicators of the less than reasonable success of the program have been the highly

publicized reports of system deficiencies, cost over-runs and delayed fielding. [Ref. 2:pp. 153-154]

Finally, the Packard Commission's report was not the only study that found fault with the training of military acquisition managers. The General Accounting Office (GAO) reported in 1986 that:

Program management is a position of substantial complexity and responsibility, involving decisions on weapons systems sometimes costing billions of dollars, which will ultimately determine capability on the battlefield. As such, development of qualified program managers requires appropriate experience, training, and education, as well as the ability to attract promising candidates into the field. DOD policy has, since 1974, recognized this need. Nevertheless, while some recently appointed program managers possess substantial experience and training, many do not. Changes are needed in current service programs to ensure a highly qualified cadre of program managers. [Ref. 3:p. 68]

The Army's MAM development program had been in existence for three years at the time both the Packard Commission and the GAO presented the studies referred to above. Thus, it was the MAM development program, that apparently was not effective.

#### **C. THE MATERIEL ACQUISITION MANAGEMENT (MAM) PROGRAM**

The Army's program for the development of its future program managers during the 1980s was called the Material Acquisition Management (MAM) program. This program was the immediate predecessor to the Army Acquisition Corps (AAC) and existed from 1983 until it was superseded in 1989 by the establishment of the AAC. The MAM program itself was a successor to the Army's Project Manager Development Program (PMDP). The PMDP will not be discussed as it is not germane

to this study other than recognizing it in the evolutionary chain of programs to develop Army program managers. A more complete description of the PMDP can be found in Nidel's paper on the evolution of the AAC. [Ref. 4]

The MAM program was based upon three phases. The first was termed the user/support development phase that entailed the first six to eight years of an officer's career. This phase was simply the normal career development pattern used by any of the basic branches, thus there was nothing different about this part of a MAM officer's career than any non-MAM officer. It involved the branch basic and advanced courses and typical jobs for Lieutenants and Captains in company-level assignments up to and including company-level command.

The second phase, deemed the MAM development phase, began upon formal entry into the MAM program which was done by a selection board. This phase was the first departure from the common operational career track. It carried the officer from formal entry until the sixteenth year of service.

The third and final phase was known as the certified manager phase and commenced with a certification board after the officer had been promoted to Lieutenant Colonel.

Since the first phase did not depart from the traditional career pattern, it bears no further explanation.

At the MAM development phase, the Army started the acquisition development process. The officer, at the point of entry into the MAM program, held not only a basic branch but

also had selected an alternate specialty from among a large group that were available. The concept was that the officer would serve in an assignment in his alternate specialty after he was qualified in his basic branch. From that point on he would rotate between his branch and his alternate specialty throughout the rest of his career. This process became known as dual tracking. Thus, with these two specialty designations, the officer had both a basic branch and an additional specialty. The MAM selection board picked officers based on this designation. The process allowed officers from any of the basic branches to be selected into MAM while considering a substantial number of alternate specialties for MAM selection, some of which had little, if any, correlation to the field of materiel acquisition.

It is also important to note that MAM was neither a branch nor an alternate specialty, but rather was known as an additional skill identifier, coded "6T". Upon selection into MAM, an officer was expected to attend the nine week MAM training course as his first military school dedicated to preparing him for assignments as a MAM officer.

The officer was then given an acquisition assignment which was not necessarily linked to the goal of preparing him as a program manager. Following this assignment, the officer returned for an assignment in his basic branch as a Major in keeping with the dual track concept. The officer was then to attend the Program Management Course (PMC) at the Defense

Systems Management College (DSMC). Finally, after selection for promotion to Lieutenant Colonel, the officer was considered for certification as a Materiel Acquisition Manager by a central board. As a certified acquisition manager, the officer was then eligible for selection as a program manager, also performed by a central board.

Although the MAM program was the most applicable and defined career path to program management within the Army, it fell short of the desired goals that several studies had suggested should be achieved for the adequate preparation of a military program manager. [Ref. 2:p. 201]

First, the MAM program required the officer to dual track after entry, thus requiring him to serve in his operational branch to remain competitive for battalion command. This required him to both prepare to be a program manager and to remain competitive for battalion command. One retired Lieutenant General recognized the problem as follows:

There is a widely held belief in the services that the weapons acquisition process is a "secondary specialty" that anyone can learn. In reality, we need to create a program management career and a professional program management organization--not half a career in acquisition and half a career in operational commands. I have really turned around on this point. I used to think that the fifty-fifty arrangement was the best one. [Ref. 2:p. 191]

Retired Army General Henry A. Miley recognized the same problem in his comment:

I don't think you have to fight inside a tank to experience what a tanker feels.... My vintage has always disagreed with the idea that you had to serve half your time in the fighting forces to be a good procurement officer. I still disagree with that .... If you are going to produce good procurement officers, you have to let them work at procurement full time and see a light at the top. They have to see that the Generals that are in the procurement business came out of the corps that they are serving in and not Joe, the combat arms guy, moving in at the two- and three-star level and cutting off their chances of promotion. [Ref. 2:p. 199]

The second problem alluded to in the above comment is that even with the MAM program in place, it was not recognized as "the path" to success in program management. More disturbing was the finding by the GAO that:

MAM certification is not a prerequisite for appointment as a program manager. Selection criteria depend on the specific position but generally include command, program office and headquarters experience, DSMC training, and senior service college. Selections are made by a central board. [Ref. 3:p. 91]

It is clear from this finding that the value of the MAM program for training Army program managers was dubious.

#### **D. SUMMARY**

This chapter briefly described the Packard Commission's findings with regard to issues in the career development of military program managers. The MAM program's structure concluded the chapter. From the Packard Commission and a review of the Army MAM program along with other literature surveyed, the following issues were identified for further research:



1. Accession and Assignment Policies.
2. Civilian Education.
3. Military Education.
4. Army Acquisition Corps Viability.
5. Army Acquisition Corps Strengths and Weaknesses.

The MAM program as discussed in this chapter will be used as a baseline for comparison and analysis of the Army Acquisition Corps. A detailed explanation of the Army Acquisition Corps is presented in the next chapter

### **III. THE ARMY ACQUISITION CORPS**

#### **A. INTRODUCTION**

This chapter will describe and explain the Army Acquisition Corps (AAC) for use as a reference for evaluations of program manager (PM) comments. It will allow the reader to fully understand how the AAC was implemented and what features are significantly different from the Materiel Acquisition Management (MAM) program the AAC superseded.

#### **B. ORIGIN AND PURPOSE**

The Army Acquisition Corps was established on 13 October 1989 by the Chief of Staff of the Army, then General Carl Vuono, when he directed that the Army Acquisition Corps transition and a steady state plan be implemented.[Ref. 5:p. 3] A transition plan was necessary as some Army officers were too senior to complete the entire AAC career model.

The mission of the AAC is to:

Create a corps of dedicated military and civilian acquisition managers which capitalizes on the operational experience of the military officers and the technical skills of civilians. [Ref. 6:p. 1]

The objective of the AAC is to:

Develop a dedicated pool of highly qualified military and civilian acquisition specialists to fill designated critical positions, while ensuring that the development of systems reflects a balance between keen regard for operational realities and technical knowledge.[Ref. 6:p. 1]

### C. TRANSITION PLAN

A study was conducted to determine the number of officers required to fill the positions in the Army Acquisition Corps. The study found that MAM officers from Year Groups 1965 through 1970 numbered more than the vacancies. A year group includes all officers who received their commission during that fiscal year. A qualification/validation board was convened on 11 September 1989 to review the records of all MAM officers. The board identified officers that met or could meet the qualifications of the Army Acquisition Corps. Officers were recommended for either retention or removal based on Public Laws, DoD directives, and Army policies.[Ref. 6:p. 3]

MAM officers were notified if they would be retained or separated. The notification letter clearly explained the new program, since it involved significant differences from the earlier MAM program. Each officer considered was given the opportunity to reclama the board's decision. The letters were mailed on 22 January 1990 and reclamation was due by 10 March 1990. The reclamation was reviewed during the last two weeks of March 1990. The results of this board formed the nucleus of the military component of the AAC, and established the baseline inventory for the basic branch/year group/functional area recruiting effort.[Ref. 6:p. 3]

Year Groups 1965 through 1970 were overstrength. The Army Chief of Staff approved a selection board to identify those

officers in the overstrength year groups that were best qualified to remain in the AAC. This Acquisition Officer Selection Board met in March 1990 and reviewed the files of some 529 officers examined by the earlier board. The selection criteria used were developed by the Deputy Chief of Staff for Personnel (DCSPER), and included acquisition qualifications, assignment history, and civil and military schooling.[Ref. 6:p. 3]

The MAM officer inventory for Year Groups 1971 through 1983 was less than required. The basic branch offices recruited officers of each of these year groups to meet requirements based on quotas. Entry criteria were established to identify the best officers to recruit. The criteria included acquisition experience, military schooling, civil education degree, and a fair share distribution of quality based upon the officer's evaluation reports. Each branch then provided the Personnel Command Acquisition Accession Board (PAAB) a list of nominees for review.[Ref. 6:p. 3]

#### **D. STEADY STATE**

The second stage of the plan is known as the steady state. The steady state was composed of those officers junior enough to complete the entire AAC career development path. The key departure point occurs at the eighth year of service. The first year group to begin the steady state model was Year Group 1983. Each branch forwarded a list of candidates for inclusion into the AAC to the Personnel Command Acquisition

Accession Board (PAAB) that met on 27 March 1990. This PAAB was composed of program managers and acquisition and branch representatives. Once the PAAB selected the required number of officers, they were notified by the Military Acquisition Management Branch. The officers were instructed to take the Graduate Record Examination, a standard examination widely used for admissions decisions to graduate school. This was done because all AAC officers must earn a Master's Degree to qualify for retention. Officers accessed were tentatively awarded a skill identifier of "4M" (non-certified AAC officer). The skill identifier would only be retained if the officer was accepted for the Army Civil School program. The officer was required to declare primacy in his functional area and his personnel file was permanently transferred from his branch to the Military Acquisition Management Branch.[Ref. 6:p. 4]

The first look at Year Group 1984 was done in October 1990. Year Group 1984 was reviewed in October 1991. Subsequent year groups will be accessed annually by a PAAB as an integral part of the AAC steady state process.

#### **E. CAREER DEVELOPMENT MODEL**

The first stage of the career development model begins with commissioning and concludes with selection of the officer for the AAC by the PAAB. This stage is similar to the first stage of the MAM program and forms the operational (user) experience background for the officer. The desired goal is

for the officer to become wellversed and grounded in the specifics of his basic branch. This operational experience is considered essential for the AAC officer in that it lends him credibility with other members of his branch. The eight years of service in basic branch assignments encompass the Second Lieutenant through mid-Captain years. Although each branch may have particular nuances to declare an officer branch qualified, all have an established path. As with the MAM program, the officer serves as a Lieutenant and attends his branch basic course followed by his first assignment to a unit. He will typically be a platoon leader and a company executive officer or serve in comparable positions based on his branch. The officer attends an advanced course and is promoted to Captain. He is reassigned to a unit and usually serves in a staff assignment at the battalion level. Most importantly, the officer is afforded the opportunity to command at the company level. He is also required to attend the Combined Arms and Services Staff School (CAS3).

This path does not differ at all from the MAM program. The first departure occurs when the officer requests and receives a functional area designation. The functional area is the same as the additional specialty previously described in the MAM program. Before establishment of the AAC, an officer could be from any branch and a large number of additional specialties and still be eligible for the MAM program. Now under the AAC, this becomes more restrictive.

The officer can still be from any branch, but now must be from one of only three functional areas:

1. Research, Development, and Acquisition, (FA51);
2. System Automation, (FA53); and
3. Contracting and Industrial Management, (FA97).

An officer holding an Aviation and Intelligence branch combination (15/35) is also eligible. [Ref. 6:p. 4] Additionally, the majority of the quota for each year group is for those officers that hold the functional area, Research, Development, and Acquisition (FA51). The functional area designation process now takes place at about the fifth year. The PAAB for the selection of candidates is also new and convenes annually to select officers at the eight year point. [Ref. 6:p. 4]

Those officers selected by the PAAB are required to follow procedures for admission to graduate school. The requirement has been established that all officers in the AAC have a Master's Degree and upon selection into the AAC, all officers are provided this opportunity through the Advanced Civil School (ACS) program. The field of study is designated by the Army and agreed to by the officer. This program usually covers a period of from eighteen to twenty-four months. Although the ACS program is not new, the one-hundred percent opportunity for AAC selected officers is new and a marked departure from the MAM program. Upon graduation, the officer then attends the nine week MAM course. [Ref. 6:p. 5]

The officer is next assigned to his first acquisition assignment. This will occur while the officer is a senior Captain or junior Major based on current promotion statistics. Since the officer has declared functional area primacy, the position should be coded for the functional area he holds. The officer, if selected for intermediate level military schooling, will attend the Command and General Staff College (C&GSC) for ten months. If not selected for resident attendance, the officer will usually complete C&GSC by correspondence. C&GSC has effectively become a requirement for promotion to the rank of Lieutenant Colonel.

The officer then receives a second acquisition assignment based on his functional area. This should take an officer to his fifteenth to seventeenth year of service. He will then be sent to the twenty week Program Management Course at the Defense Systems Management College (DSMC) following the second acquisition assignment. [Ref.6:p. 5]

The AAC officer's record will be reviewed by a board upon entering the zone of eligibility for promotion to Lieutenant Colonel. The board will review the records for compliance with the law, DoD directives and Army policy for certification as a "42", certified acquisition manager. Those officers who meet the established criteria will be awarded the "42" skill identifier marking them as certified acquisition managers in accordance with the law. If the officer is not yet qualified but could be within two years, he will be retained in the AAC



as a "4M". Officers who, for whatever reason, cannot become certified within the two year period will be disenrolled from the AAC, and returned to their branch and functional area career fields. The certified population of officers are those considered for promotion to Lieutenant Colonel, subject to the promotion floors for AAC officers.

Upon certification and selection for promotion to Lieutenant Colonel, the officer has completed the second phase of the AAC career development model. It commenced with acceptance to the AAC candidate pool and an approved graduate program and ended with certification and selection for promotion to Lieutenant Colonel.

The last phase of the three phase model is the certified acquisition manager phase. This phase begins upon certification and selection for promotion and ends with the officer's separation from the Army. During this period the officer serves either as a program manager (PM) if selected by boards at the Lieutenant Colonel rank or serves in other positions designated as critical (4Z) and requiring a certified officer. The officer is considered for attendance at a senior service college, selection as a project manager, and for promotion to the rank of Colonel in much the same manner and by the same type of selection boards that were used at the rank of Lieutenant Colonel. [Ref. 6:p. 5]

#### **F. SIGNIFICANT CHANGES OF THE ARMY ACQUISITION CORPS**

The Army Acquisition Corps incorporates significant changes in the development of its officers based upon the MAM and earlier programs, and more importantly on the law and DoD directives.

The first significant change is that the AAC selects or designates officers from a more restricted population. Only three functional areas and one branch combination are now considered for selection with the majority of the selections from one functional area (FA51). These areas more specifically represent the functions and skills that the various studies found were necessary to produce skilled PMs. Also, the MAM program was strictly filled on a voluntary basis versus the AAC which has used a combination of both a "draft" and volunteers.

The second major change is that all officers selected are given the opportunity to earn a graduate degree through the ACS program, an opportunity that in fact, the officer must take. This should provide an incentive to volunteer for the program. The MAM program did not require its members to hold a graduate degree and, although many officers did, they were not all supported by the ACS program.

Another significant change is the "single tracking" concept in that once the officer is accessed into the AAC, he will never again be assigned by his basic branch. This was done to address the requirements of the law (Defense

Acquisition Workforce Improvement Act) and the previous studies. This is also one of the more controversial issues within the Army, as reflected by the primary research effort that will be explained in the next chapter. [Ref. 6:p. 5]

Finally, a very important difference is the Army policy that AAC officers are not eligible for battalion and higher level commands. Just as crucial, non-acquisition corps officers will not be eligible to be selected for PM positions, based on statute requirements. Thus, the two career paths are unique and distinct. This clearly demonstrates the seriousness of the decision to join the AAC and the seriousness of the Army itself to form an exclusive and viable career path to the position of program manager.

#### **G. SUMMARY**

This chapter explained the specifics of the Army Acquisition Corps. It also highlighted the specific differences between the AAC and previous programs to illustrate the large step the Army is taking to improve the career development of its program managers. The next chapter is the presentation and analysis of data gained from personal interviews of fourteen Army program managers.

#### **IV. DATA PRESENTATION AND ANALYSIS**

##### **A. INTRODUCTION**

This chapter presents and analyzes the information gained from personal interviews conducted with fourteen Army program managers. The questions and responses comprise the primary research of this thesis. These interviews provide an important source of information in analyzing and evaluating the Army Acquisition Corps (AAC) and its likelihood of success in better preparing Army officers to serve as program managers in the future.

This chapter analyzes the AAC based on the previous issues identified in Chapter II. The current structure and policies of the AAC will be evaluated using the information from personal interviews and the literature review. Through this analysis, the model explained in Chapter III for the career of an AAC officer can be verified and improved upon.

##### **B. DEMOGRAPHICS OF THE OFFICERS INTERVIEWED**

The fourteen interviewees group included thirteen officers who were program managers at the time of the interview and one that had completed an assignment as a program manager and was serving in a command position.

Five officers were assigned at Fort Monmouth, NJ, four at Picatinny Arsenal, NJ, and five at Redstone Arsenal, AL. All

were involved with programs identified as field artillery systems.

Branch representation of the interviewees was: Field Artillery-7, Ordnance-4, Air Defense-1, Infantry-1, Signal-1.

Functional Area representation was: Research, Development and Acquisition, FA51-13; System Automation, FA53-1.

Rank and year group representation of the interviewees was: Colonel-6, Lieutenant Colonel-8; YG65-2, YG67-2, YG68-2, YG70-2, YG71-3, YG72-1, YG74-2.

Commissioning source representation was: Reserve Officer Training Corps (ROTC)-9, Officer Candidate School (OCS)-3, United States Military Academy (USMA)-2. All the officers interviewed held Master's Degrees. The officers' ages ranged from 42 to 51 with an average age of 45.

#### **C. ISSUE AND INTERVIEW ORIENTATION**

Each interview addressed a series of issues on the AAC and its policies. These issues were selected based on issues previously identified in Chapter II and on the policies that have been established by the Army due to recent legislation and direction provided by the Department of Defense.

Each program managers is identified by a letter together with that Program manager's comments. This allows the interviewees freedom from attribution, yet allows the reader to link the same interviewee's answers to various questions throughout this chapter. The background of the officers interviewed is found in Appendix A.

#### D. ISSUE ONE: ACCESSION AND ASSIGNMENT POLICIES

The first issue discussed was researched through the use of four separate questions. The first question dealt with how the Army would access officers into the AAC. The initial Army procedure was to consider officers of a number of different year groups and varying levels of experience, as was explained in Chapter III. One concern was how to access officers in the future, as these officers would be the ones junior enough to complete the entire AAC career development model from start to finish.

Question One: Should entry into the AAC be strictly by a "draft", strictly volunteer, or a combination of draftees and volunteers?

Nine (64%) of the interviewees favored a combination of a draft and volunteers for future accessions of officers into the AAC. The term "draft" used here denotes the fact that some officers were designated without an option by their basic branch for accession into the AAC. One such draftee officer was a Special Forces officer at the Naval Postgraduate School (NPS) in the Systems Acquisition Management Curriculum (817A). It should be noted that NPS is currently being used by the Army to fulfill the Master's Degree requirement for some of the officers of the AAC. The Special Forces officer was not a volunteer for the AAC and originally was not particularly happy to have been directed into the AAC. Comments by PMs in favor of the combination method follow:

Program Manager B noted, "There is doubt among young officers as to whether there are any advantages to be in the AAC." Until such advantages are recognized, he believed that some of the requirements would have to be met by directing officers into the AAC who had not volunteered.

Program Manager F stated that, "A combination method should be used." He also felt a screening process should be used to ensure high quality officers are accessed as determined by their performance based on their Officer Evaluation Reports (OERs). He said that there would probably be a number of volunteers who were not what the Army would want in terms of quality and that some officers that might not volunteer, who actually possess valuable procurement skills and abilities. He felt these desirable officers should be directed to the AAC.

Program Manager G compared the accession process for the AAC to the basic branch assignment process. He stated that not all infantry officers or artillery officers are in these branches as their first choice. The reality of the situation dictates that some officers will have skills the AAC should use and those officers should be accessed into the AAC, even if they do not volunteer. He went on to say a number of the Captains that work for him are reluctant to volunteer for the AAC because they are not sure that it is "real". These young officers see Generals who performed well as operational unit commanders but they do not see Generals that were program managers. They know that the operational track works and that it will always be there but they do not have the same level of confidence in the AAC track. Until young officers have that confidence, a combination of draftees and volunteers will be necessary.

Five of the officers interviewed (36%) believed that AAC accession should be done from strictly a volunteer population, primarily because they felt that a volunteer system is inherently better. They saw volunteers as being motivated to achieve the greatest success and dedicated to a sense of doing something meaningful. Officers would perform better because they wanted to "be there".

Program Manager A stated a volunteer program is infinitely better. Regardless of the motivation for volunteering, the performance of a volunteer could be expected to be better than that of a draftee. Even though a professional military officer is expected to have the maturity to do his best at any job, there will always be some small element of a draftee's performance that will be less than expected.

Program Manager D stated that though most of his contemporaries volunteered for the acquisition field, almost everyone in the field had asked himself, "Why would anybody in their right mind want to do this?" If an officer volunteered to enter the AAC, in spite of these misgivings he will keep on driving. If an officer was drafted and forced into the field, he would probably not perform as he really should, looking for the opportunity to get out of the AAC. This means leaving the Army. It has to be volunteer. "The stresses as a Battery Commander (I had sixty-nine months of battery command) are nothing compared to the stresses of this job."

Program Manager N disagreed with any use of a draft. He said there were more than enough volunteers in the old MAM program. With the downsizing of the Army, he felt there would not be a shortage of volunteers.

The use of a combination of volunteers and draftees appears to be, at least in the early years, the best method of obtaining a quality force of dedicated and skilled officers whose professionalism should ensure acceptance of the AAC by the rest of the Army. This method is the current AAC procedure and the majority of the interviewees supported this combined method of obtaining new officers (64%). Additionally, a quality screen which keeps the AAC from becoming an escape route for those officers that were unable to perform well in the operational side of the Army must be maintained. The ideal situation for the future would be to have enough volunteers to fill the required number of



accessions without accepting any who do not meet the quality screen. This is a realistic goal that can only be achieved if the AAC survives and prospers as a viable career option. ■ The next question dealt with the issue of accession and assignment policies by investigating when a dedicated acquisition career path should begin. Focus on a single specialty within the Army is known as "single tracking", which requires an officer accessed into the Army Acquisition Corps to serve only in acquisition assignments and to have no further primary affiliation with his branch. During interviews, this proved to be a more sensitive topic in that interviewees had not yet been afforded the opportunity to single track. Single tracking was instituted to meet laws (especially the Defense Acquisition Workforce Improvement Act) and prevent the jumping between specialties that was described as a problem in Chapter II.

Question Two: Is single tracking a good idea, and when should it begin?

Eight officers (57%) indicated single tracking should occur after the officer has served a tour in a basic branch assignment as a Major. This appears to reflect a feeling that user experience in the basic branch is extremely important and that some of this experience should be as a field grade officer. Typical comments from these eight officers were:

Project Manager A stated that it would be best for single tracking to occur after the officer was certified as an acquisition manager sometime between the fourteenth and seventeenth year of service. He stressed the need for recent user experience in the basic branch.

Project Manager B did not agree with the single tracking idea at the eighth year. He believed the effect would be a loss of the "green perspective" that makes a military officer's background so applicable to the development of military equipment. He said technology was changing at so fast a rate that the officer single tracking at the eighth year would have no experience using the equipment that he was tasked to replace.

Project Manager F indicated that the early single tracking idea was not a new concept but he disagreed with it. He believed he gained much of his user understanding as a Major in artillery units and as a battalion commander. He cited a possible time of fifteen years between the last assignment in the officer's basic branch and assuming a program manager position as a Colonel and felt this would cause a lack of credibility with his basic branch peers. If program manager positions were made branch immaterial, he could then support the early single track concept.

Project Manager H noted that the Air Force seemed to have been able to successfully single track their acquisition officers at an early stage in their careers. However, he did not believe the Army should do the same and did not think that program manager positions should be branch immaterial.

Program Manager K stated that during a period of war, the idea of single tracking an officer at the eighth year would hurt the Army. He believed that these officers would be needed in combat leadership positions in their basic branch but would not have the skill or experience to be effective in that role.

Six officers (43%) agreed with single tracking an officer at his eighth year of service upon accession into the AAC. This is in agreement with current Army policy. Representative comments follow:

Project Manager D felt there was no other choice. He said officers of his era tried to be competitive on both the operational side for battalion command and on the acquisition side for program management. "If you try to do both, one side or the other is short changed." The burden is with the AAC officer himself to stay current in his basic branch.

Project Manager G believed the AAC concept is the way of the future. He had two artillery assignments in twenty-four years of service. He stated that true exposure to soldiers ends at company level. The officer should be branch qualified before selection for the AAC. There simply is not enough time to prepare as an operational officer and as an acquisition manager. "If you tell him it is possible to do both, he hedges his bets." This interviewee gave the most compelling argument against returning to a branch assignment as a Major:

You learned all you will ever learn about what the soldier really does when you were a Captain and Lieutenant, and after that technical experience not field experience, keeps you up to date with your branch. You get that through being associated with projects or staff work in support of your branch. If you went back, odds are you would never make it to a battalion. I don't think with a 'regreening' tour an AAC officer would ever see a tactical unit. What has changed in the artillery since you served as a commander as a Captain, the equipment, and that came from the material development community where the AAC officer would be working."

Two of the six program managers who supported single tracking at the eighth year cited the time needed to work in acquisition assignments before serving as a program manager as the key driver of this policy. The AAC single tracking concept was supported by a minority of the interviewees (43%). Those that opposed single tracking based their answer on their preference for user experience as a Major. An important consideration should be noted here. This option was not available to any of the officers interviewed. Therefore, there may be a bias for the interviewees to believe that the

way they were developed (two specialties) is the best approach. Unless the current AAC policy is followed, the amount of acquisition experience that officers will have prior to selection as PMs may not significantly improve. Thus, in the vital area of increased acquisition experience, the AAC would not accomplish the desired end and the minority opinion here that supports the current AAC policy is recommended by the researcher.

Once an AAC officer is accessed and educated, he is ready for his first acquisition assignment. Most likely, he will be either a senior Captain or a junior Major and will naturally seek the best assignments to prepare himself for a program manager position. However, the jobs which best accomplish this are not clearly established and known by young officers.

Unlike the operational officer, who knows the key jobs to get at these ranks for preparation as a battalion commander, the AAC officer does not have the advantage of institutional knowledge to guide his preferences. It is important, therefore, to try to identify and publicize those positions which make the AAC officer competitive for selection as a program manager. The officers interviewed appear to be a valuable source of this information for two reasons. First, they must have done the "right" jobs as they were selected to be program managers. Secondly, as program managers they should know what previous positions best provided them with the skills needed to manage their current responsibilities.

Question Three: For the AAC officer's first and subsequent assignments, what are the jobs and positions that will best prepare and develop him to become a program manager?

All fourteen (100%) officers said an assignment to a program office was a prime developmental position. They agreed that this was the only place to get the complete picture of what managing a program was all about. Six officers said this was the best possible developmental position for an AAC officer hoping to become a program manager. These positions are identified on manning documents as Assistant Program Manager and, in some cases, are coded for Captains and Majors. They usually involve testing, readiness, material fielding, or logistics. Any of these would develop an AAC officer in the view of the officers interviewed. A number of interviewees did not have authorization for an Assistant Program Manager (APM) and saw this as a major problem. They agreed the workload was there to support a military officer and said action should be taken to create more positions for military officers at the ranks of Captain and Major to staff program offices.

All fourteen officers (100%) mentioned working in the testing community as excellent developmental experience. They recognized that testing was only a slice of program management, but agreed it was a critical slice that would provide a young officer with an excellent background to become a program manager. Testing assignments could be either developmental or operational. The specific agencies mentioned

were Operational Test and Evaluation Command (OPTEC), Test and Evaluation Command (TECOM), Combat Systems Test Activity (CSTA), and Test and Experimental Command (TEXCOM). These were viewed as important since all programs must undergo testing to demonstrate their effectiveness.

Nine officers (64%) identified procurement command assignments as being excellent (e.g. Communications and Electronics Command (CECOM), Missile Command (MICOM), Tank and Automotive Command (TACOM), etc.). Within these commands, many positions for military officers exist. The interviewees favored those jobs where the officer would work in a functional directorate tasked to provide matrix support to program management offices. Some programs are too small in dollar value to be managed by a board selected officer and they normally are managed by Captains and Majors. These programs exist at the procurement commands. This was viewed as being invaluable acquisition experience.

Seven officers (50%) listed Department of the Army staff positions in the Secretary of the Army for Research, Development and Acquisition (SARDA) and the Deputy Chief of Staff for Operations (DCSOPS) as good acquisition experience assignments. The typical jobs in these agencies are as action officers representing the programs and responding to Congress, the Office of the Secretary of Defense (OSD) and other agencies on funding and technical program matters. This was

viewed as giving the officer a clearer understanding of the political dimensions of the acquisition process.

Six officers (43%) believed that working for a Training and Doctrine System Manager (TSM) would be beneficial. This is the requirements part of the process. Positions exist at all basic branch schools and allow the AAC officer to work closely with the user in defining equipment needed and performance requirements.

It should be noted that jobs mentioned by less than five (36%) of the interviewees were not listed.

The young AAC officer who aspires to be certified as an acquisition manager (42) and to ultimately be selected as a program manager should be aware of the best developmental positions that will allow him to achieve these goals. The officer in the traditional operational track who aspires to command at the rank of Lieutenant Colonel and beyond is well aware of the premier positions at the rank of senior Captain and Major. The overwhelming majority of Lieutenant Colonels selected for command have previously served as a battalion level executive officer (XO) or operations officer (S-3). They have generally tried to serve in these positions for as long as possible and have received outstanding performance evaluations while in these demanding duty assignments. The common knowledge among operational Army officers is that superior performance in these positions leads to promotion,

command, and school selection. This fact is repeatedly verified by selection board results.

Unfortunately, with the lack of such historical precedence, there is less certainty among AAC officers as to which developmental positions will make one most competitive for promotion, advanced schooling and selection as a PM. Interviewees were a valuable source of information in indentifying the best developmental positions, based on their responses during the interviews and by examining their own assignments. Each interviewee supplied the researcher with a copy of his own Officer Record Brief (ORB).

The PMs interviewed had very strong feelings regarding which particular positions would best prepare the AAC officer from the time of accession to the Lieutenant Colonel promotion board and Program Manager selection board.

The clear choice for the best position to have served in and succeeded at was that of Assistant Program Manager (APM). Every interviewee (100%) mentioned this and at least six stated that it was absolutely "the best" developmental position for an AAC officer in preparing him as a sucessful program manager. The researcher's review of the interviewees' ORBs reflected that seven (50%) had served as APMs earlier in their careers. This is clearly the position in the AAC most comparable to the battalion XO or S-3 position for the operational officer. The APM position allows the officer to work directly with the PM in much the same manner that the XO



or S-3 works with the Battalion Commander. It is also the only developmental position in which the officer is able to observe and become involved in the complete realm of duties and responsibilities of program management.

In order to provide sufficient developmental positions, more than one APM authorization for each PM position would be extremely beneficial. In reality, the researcher observed quite a different situation. Of the thirteen current program managers interviewed, only five APM positions for either a Captain or Major existed on authorization documentation. This appears to be very insufficient for the Army's needs. In a few cases, the PMs had officers working for them as APMs, in effect, but not by authorization. The officers they used as APMs were detailed to them from other offices at the same installation. This indicates that some action is necessary to authorize additional APM positions. Perhaps, at the very least, one APM position per PM position should be established. There was general agreement among the interviewees that the work to support these additional APM positions existed, that they would welcome such a move in additional authorizations, and that even though a program goes through various stages in its life cycle, meaningful and demanding work for an APM would always exist. It is clear to the researcher based on these observations that this is one aspect of the AAC that needs further study and action.

The interviewees' second choice for a developmental assignment is best described as a testing position. Although it was mentioned by all the interviewees (100%), not everyone thought it was "the best" developmental position. Although testing is an extremely important part of virtually any program's development, it is only a part of the acquisition picture with which the program manager must be concerned. There was a feeling that an officer working in the testing arena would not get the macro-view. A review of the ORBs showed that six officers (43%) had testing experience in a previous assignment. Opportunities exist for AAC officers in both developmental and operational testing. Examples of testing assignments are found in such Army agencies such as OPTEC, TECOM, and TEXCOM.

The next best developmental assignment in the eyes of the PMs interviewed is found in the procurement commands, such as CECOM, MICOM, TACOM, etc. Nine officers (64%) mentioned this in their interviews. Two types of positions in these commands were specifically mentioned. The first is working in a functional directorate of the command providing matrix support to the program management offices... Also mentioned were positions in which an officer serves as a mini-PM, managing smaller programs not requiring a board selected PM. A review of the CRBs indicated seven of the officers (50%) had a previous assignment of this type.

Finally, the only other developmental assignment mentioned by at least half of the officers was working on the Department of the Army Staff, particularly SARDA or DCSOPS. Seven officers (50%) mentioned this as a good developmental assignment for the AAC officer. Within these agencies are a number of positions that would expose the AAC officer to the political process and funding procedures, which effect program management. All interviewees believed these to be an important aspect of program management.

The final analysis of the "best" developmental positions is that an APM is the only job for the AAC officer that prepares him in the same manner as the XO or S-3 job prepares the operational officer for battalion command. The other three positions listed above would be better considered as good first acquisition assignments to be performed prior to working as an APM in a program management office. Each of the three supports the AAC officer in learning the skills and procedures that are needed to serve as a program manager.

The last question associated with accession and assignment policies addressed duration and time of program manager reassignment. Past studies have criticized the length of assignment for program managers and their time of reassignment.

Question Four: What is a good guide to use for the length of assignment as a program manager and when should program managers be reassigned?

Twelve officers (86%) stated that an either/or method of minimum time or completion of a milestone should be used with the minimum times being three years in Lieutenant Colonel positions and four years in Colonel positions. This is in agreement with current Army policy. Representative of these responses were the following:

Program Manager A noted, "Milestones do not apply to my program. Block modification has no formal milestones, just some wickets. Ideally it should be at completion of a phase. Three years is a good average, but it is program dependent."

Program Manager B stated, "It is very hard to set a tenure time. It should be done on a case-by-case basis so a length of time or achievement of a milestone will work."

Program Manager C said, "Either way, a time or a milestone will work. There have been three PMs before me over a period of three years. One left for personal reasons and one was not a '42'. A person should sign up. The PM should be required to annually brief the baseline to the Program Executive Officer (PEO) to eliminate focus on short term objectives."

Program Manager D commented, "It is hard to set a policy but this is a good general one. You need to talk to the actual PM. Life cycle has an effect and the later stages of a program are more difficult but I agree with reducing volatility."

Program Manager F stated, "This has been a credible argument as I believe tenure has been a problem. You would like to achieve something specific during your tenure."

Program Manager G noted, "The personnel policy is always going to supersede the management policy. I was selected to go to the Industrial College of the Armed Forces (ICAF) and could not turn it down without damaging my potential advancement opportunities so this is cause for a policy change. Using milestones is best, but I do not know if it is feasible. You should carry your program through a milestone."

Program Manager H said, "Yes, it is effective and better than it was. By law, there is a thirty day overlap required between the outgoing and incoming PM. It must be done at a 'make sense' point."

Program Manager N believed, "The problem was exaggerated. It is not a big problem and stability statements are not necessary."

One officer (7%) said only the use of time was best and one officer (7%) said only using milestones made sense. The comment supporting exclusive milestone use was:

Program Manager I said, "No, the current policy will not serve our needs. The cost problems are not due to rotation policy with PMs. The tenure should be to a milestone. It should be event driven, not time driven."

The stability issue raised by frequent turnover of Army program managers has been targeted and addressed through the use of minimum time in conjunction with the use of milestone achievement. The program managers were strongly in favor of this method (86%). This problem should be effectively solved by the time/milestone rotation policy of the AAC. Additionally, the AAC has adopted a policy of a thirty day overlap between the outgoing and incoming program manager that should further improve the transition from one program manager to his successor. The only other action necessary is to allow incumbent program managers to be deferred for attendance at

the Senior Service Colleges until they meet the AAC tenure guideline (i.e. priority to program manager tours).

#### **E. ISSUE TWO: CIVILIAN EDUCATION**

The next two questions were asked to determine the interviewees' thoughts regarding the level and type of civilian education that officers of the AAC should possess. One research source stated that the first requirement for an officer wishing to enter the MAM program was to have a degree in engineering or a physical science. [Ref. 7:p. 7] The only exception would be for a graduate of one of the military academies, and then only if the officer concentrated in engineering. [Ref. 7:p. 7] The question was asked to determine what type(s) of undergraduate degrees were preferred, or even required.

Question One: Is there a need to require a specific undergraduate degree for officers of the AAC? If so, which one(s)? If not, why not?

Thirteen (93%) of the officers did not believe that a specific degree or degrees, at the undergraduate level, should be required for officers to be accessed into the AAC. Responses ranged from preference for a specific degree to no preference for any particular undergraduate field. Respondents supporting no requirement for a specific undergraduate degree is in keeping with current Army policy. Interviewees stated the following:

Program Manager A stated that a specific technical undergraduate degree was not essential and maybe not even absolutely preferable for a PM. "This is management. I have a number of technical people that work for me."

Program Manager B, who had an undergraduate engineering degree, said that most of his time is not spent looking at technical problems or problems that require an engineering degree.

Program Manager C said that his technical people are able to explain the technical details.

Program Manager D favored an undergraduate engineering degree. It would be better for a program manager to have technical expertise and let his business management people run the business end of the program than for a program manager to be a business expert and rely on his technical experts to carry out the technical side. Therefore, he would not make it an absolute requirement but would favor the engineering degree.

Program Manager E stated that going into the acquisition corps, you should have a technical background versus a history or a bachelor of arts degree because you are dealing in the technical world. If you are not technically oriented you are going to have a difficult time. "I don't think it is a mandatory thing. I think you need to look at what the officer has done subsequent to his undergraduate degree."

Program Manager F commented that the first question he was asked upon his selection as a PM concerned his ability to handle the engineering aspects of his program. He felt that if a project manager has to rely on his own engineering expertise to get the job done effectively, then the Army has done something drastically wrong. "My job is not engineering, my job is the management and leadership of the program. If the credential for coming in was engineering, I wouldn't be here. Every job you go into in the Army you are not 100% prepared for. If you can accomplish the discipline of a graduate program like the one at the Naval Postgraduate School or others, you can handle what you are going to be confronted with in this business."

Program Manager G stated the ideal manager has an engineering Bachelor's and a management Master's. An officer with an engineering undergraduate degree would be good, but it should not be a requirement.

Program Manager I stated that although an engineering degree would be preferred, a non-technical degree does not mean that an officer is not capable of doing the job as a PM. One assimilates technical expertise as time goes by.

Program Manager K said: "I don't care if you're a piano major, as long as you have a degree at the bachelor level, it should not be a problem."

One officer (7%) thought a more specific set of criteria should be used. He firmly believed that the undergraduate degree should be in a scientific discipline (either engineering or science), or business. He indicated that this should be a requirement for accession into the AAC. Program Manager H then defended his rationale by stating:

The program management field is not all technical and it's not all business, but it is mainly business. Yet, if you do not understand the basic concepts of physics, you are going to get lost in this business.

The program managers interviewed strongly believed that officers selected for the AAC need not have any specific undergraduate degree (93%). Only two (14%) of them had engineering degrees at the undergraduate level. The prevailing opinion was that the undergraduate degree had little to do with chances of success as a program manager. The main consideration with the undergraduate work of AAC officers was that it must be of a quality to be accepted for graduate study. One of the two officers that held an undergraduate engineering degree mentioned that since technology improves at such a rapid rate, his engineering degree had been of little use to him in his program management position.



The officers interviewed held a diverse assortment of undergraduate degrees including history, education, and zoology. Not one felt hindered by holding an undergraduate degree in a non-technical field. Thus, the AAC should continue to access officers regardless of specific undergraduate degree as has been done. To do otherwise would limit possible selections without good cause. The key point is accessing officers whose undergraduate record indicates likely success in graduate work based on undergraduate performance.

The second question concerning civilian education addressed the value of graduate education and the preferred field of study. The AAC has incorporated significant change over the MAM program in this area. General Carl Vuono ( USA, ret.) established a 100% opportunity for AAC officers of Year Group 1983 and beyond to participate in the Army's Advanced Civil Schools (ACS) program. This is a fully funded program whereby an officer's full time study is paid for by the Army. One's full time job is to earn a degree specified by the Army to support AAC requirements. The officer is assigned to the United States Army Student Detachment, Fort Benjamin Harrison, Indiana. His orders state "with duty at" and the institution he is to attend. Upon notification that he has been accessed into the AAC, the officer is directed to apply to a specific educational institution for a specific degree program. The officer must gain acceptance to a graduate

program to remain in the AAC. A limited number of officers hold a graduate degree upon entry to active duty. Thus, it is possible that some AAC officers will not participate in the ACS program. The interviewees were questioned as to their thoughts on this process.

Question Two: Should a graduate degree be required for AAC officers, in a specific discipline, and do you support the use of the ACS program for all officers accessed into the AAC?

Eleven officers (79%) agreed with the current AAC policy of requiring a graduate degree in specific discipline(s) and the use of the ACS program to accomplish this goal. Their reasons were varied and were expressed in a number of ways:

Program Manager D stated that a graduate degree should be required and that the favored degree should be an MBA or a program similar to the one taught at the Naval Postgraduate School (NPS) called the Systems Acquisition Management (817A) curriculum. He himself held an MBA from a civilian institution and noted, upon examining a matrix of the NPS 817A courses, said that the big difference was that the NPS program was aimed towards military application. A civilian program is more broadly based whereby the officer would have to pick and choose what applied to him. He said he liked the looks of the NPS program.

Program Manager E believed that a graduate degree was essential and supported the use of the ACS program saying the Army should provide the time and the funding. He also stated that the MBA degree was good but not necessarily the best graduate degree. He believed that technical advanced degrees should also be included for the AAC officer. Upon seeing the NPS 817A program, he called it a "maxi PM course" and noted its similarity with the Program Management Course taught at the Defense Systems Management College.

Program Manager F commented that the requirement to get a graduate degree forces an intellectual disciplining of an officer. There is a degree of motivation, independence, and analytical skill for graduate study which are invaluable in this business. He supported graduate schooling. "There are engineering skills and mathematics skills that are beneficial which you only get through graduate study that help you in this job. If you don't provide the opportunity for all, it then becomes an artificial discriminator for selection boards. The Army has had fully funded graduate study for other positions such as the Foreign Area Officer (FAO) program, Military Academy and Reserve Officer Training Corps (ROTC) teaching assignments, and comptrollers. The choice of study has to be limited to applicable degrees. Along with management degrees there may be a need for some more technical degrees." Program Manager F also noted the similarity between the NPS 817A program and the DSMC PM course and thought that the possibility of redundancy existed.

Program Manager G supported the AAC graduate ACS program and said a graduate degree should be a requirement. He believed the graduate degree should be in a management field unless the officer had an undergraduate management degree. Upon comparing the NPS 817A program with his experience at the DSMC PM course and as an ICAF graduate he said the officer from NPS with an 817A degree would be "bored to death" at the DSMC PM course because of the likeness between the two.

Program Manager J stated that a graduate degree should be required. He believed that the tools and skills gained as an undergraduate would not be sufficient and that the necessary skills and tools are taught at the graduate level. He also stated if you are going to make this a requirement, then the resources (time and money) should be provided.

Program Manager K said that he supported the AAC graduate education policy to ensure a high level of quality among officers of the AAC. He believed this would provide an incentive in two ways: first, younger officers would recognize the quality of highly educated seniors and be attracted to follow their lead, and second, the benefit of the funding and time to get a graduate degree.

Two officers (14%) did not agree with the current AAC policy of requiring a graduate degree and consequently did not concur with the use of the ACS program for all officers of

the AAC. Their general feeling was that a graduate degree was a "ticket punching" exercise and that the time spent in the ACS program could be better spent in acquisition assignments. These officers expressed doubts as to the necessity of a graduate degree to perform well as a program manager. Also, one officer said that it was creating a wrong mentality among the officer corps. That same officer believed that the Army's military school system provided the officer with the educational background he would need as a program manager.

Representative comments were:

Program Manager B did not agree that a graduate degree be a necessity. He stated the necessity was to be able to think and to understand. Although he agreed an MBA might be helpful in some cases for a program manager, it should not be a requirement. He further stated that he could survive in his job fairly easily without an advanced degree, although he had one.

Program Manager C said he strongly disagreed with the mentality that you must have a graduate degree to be a good program manager. Nowhere in civilian industry is a graduate degree a requirement to be a program manager. "I really do not think that a graduate degree is necessary and I strongly disagree with that mentality. If that happens we are getting into ticket punching."

One officer (7%) conditioned his response. Program Manager M did not believe a graduate degree should be a requirement. He acknowledged that education was beneficial and that it would be impossible to have too much education. However, although he thought the AAC concept was positive, he did not believe that there was enough time for an officer to attend school for two years as a senior Captain and still meet the requirements for the amount of time spent in acquisition

assignments. Therefore, his support of graduate education was conditional.

All the officers interviewed held one or more graduate degrees. The fully funded graduate schooling was soundly supported (79%) as part of the AAC career path. A number of reasons were cited for supporting fully funded graduate study. The fact that a graduate degree is normally an expensive and time consuming prospect was noted, thus the policy should serve as an incentive to officers considering the AAC. Also, the skills learned in the graduate programs could be specifically applied to positions in the acquisition field. Also noted was the mental discipline involved in successfully completing a graduate program, a necessary element for success in the fast moving world of program management.

Unlike the notion of AAC officers holding a wide range of undergraduate degrees in different disciplines, there was a strong feeling that only a limited number of graduate degree programs should be used for AAC officers. The most frequently mentioned degree helpful in the acquisition field was a graduate degree in management. Although most agreed an M.B.A. would be helpful, there was a strong belief that almost any type of management graduate degree that included business, statistics, accounting, and economics courses would be extremely helpful to any officer working in program management. An advanced degree in engineering was also viewed as applicable, but only for very technical programs in which

the officer's duties would require a detailed personal knowledge of engineering principles. Many of the PMs interviewed noted that they had engineers on their staffs and needed only to have a general understanding of the engineering challenges of their respective programs, leaving the technical details to the trained engineers that worked for them. The AAC's current model for inclusion of fully funded advanced civil schooling was supported by the responses of the PMs interviewed.

#### **F. ISSUE THREE: MILITARY EDUCATION**

The AAC officer is expected to complete all the military educational schools that were described in Chapter III. Interviewees were asked about military education to gauge their feelings on the usefulness and applicability of such military education. The first question on the military education system was:

Question One: Should officers of the AAC continue to attend a branch basic course and advanced course?

All fourteen (100%) officers interviewed agreed with the continued use of these two schools. This is in agreement with the AAC model. A suggestion was made during one interview that each basic and advanced course program of instruction include a block of instruction on the AAC to educate officers early in their careers. The interviewee believed this would assist in educating the officers about the AAC since it is

such a new career option and will draw its members from all the Army's basic branches.

The officers were then queried about their feelings on the Combined Arms and Services Staff School (CAS3). None of the interviewees had attended this school. Completion of this school is required for all officers of Year Groups 1981 and later. It consists of a correspondence phase, to be completed before the nine week resident phase. This course must be completed before one begins the Command and General Staff Course.

Question Two: Is CAS3 necessary for the AAC officer?

Again, all fourteen officers (100%) agreed with the requirement for this course. There was a general feeling that it is an effective course in teaching good staff techniques and skills. It was also noted that this is the first military course where officers from all of the branches are able to share the diversity of their experiences thus enriching their educational interaction.

The courses mentioned above are all normally completed within the first eight years of an officer's career. Since accession of AAC officers occurs at the eighth year, these courses would normally be completed prior to an officer's entry into the AAC. Therefore, an AAC officer's military schooling would be identical to that of an operational officer's for the first eight years of service. Thus, as would be expected, the interviewees fully supported these

early military courses. They serve as the foundation for an officer's expertise within his basic branch. Since these courses normally occur within the first eight years of service they do not interfere with the education and training unique to the AAC officer. These courses form the common ground among both the AAC officer and the operational officer who uses the equipment the AAC officer is responsible for acquiring. These schools should continue to be required for the AAC officer in order to prevent erosion of the acquisition-user relationship.

Upon accession into the AAC, the current policy is to send all officers to the nine week Material Acquisition Management course at Fort Lee, Virginia. This is the first military school an AAC officer attends which is focused on Army acquisition. It serves as a basic course for the AAC officer and gives him a base to build upon by introducing him to acquisition specific matters and terminology.

Question Three: Should the MAM course be utilized by the AAC officer?

Thirteen (93%) of the officers interviewed supported the use of the MAM course in the AAC career model. It was viewed as a helpful introduction for officers who had not yet worked in the acquisition environment. The interviewees believed that it gave a solid foundation for the new AAC officer and provided a common ground for officers entering the program from the various basic branches. Some mentioned that they had sent both civilians and military officers to the course in the



past. This was usually accomplished soon after a newly arrived and inexperienced person was assigned to their program, whether as a core program office member or as part of the matrix support structure. The interviewees emphasized that the course was useful only for those who had little or no knowledge or experience in the military acquisition environment.

One officer (7%) described it as a "no value added " course. This caused him to doubt the wisdom in sending all new AAC officers to the course.

The MAM course enjoyed strong support (93%). It should continue to be used to educate officers entering the AAC. The MAM course becomes, in effect, the basic course for all AAC officers. Attendance at the MAM course should occur either immediately before or after the graduate schooling, and certainly before the officer arrives at his first acquisition assignment. PMS indicated the course would have diminished value once an officer had worked in an acquisition assignment for any length of time. By then, his work experience should have given him familiarity with the procedures and language unique to the field of military acquisition.

The Command and General Staff College (CGSC) is the next military school in the hierarchy. This school differs from the other military schools mentioned above in a few significant ways. The officers that attend this school are Captains, selected for promotion, or Majors. The officer

typically attends this school between his twelfth and fifteenth year of service. Students come from all branches of the Army. An officer must be selected by a board to attend and only the top half of a year group is selected. Selection is competitive and serves as a signal to an officer of his standing among his contemporaries. The school is ten months in length and is located at Fort Leavenworth, Kansas. The course of instruction is vast in scope and gives a macro view of the Army to prepare the officer for high level staff assignments and command at battalion level. The course can also be completed by correspondence, and in fact all officers not selected to attend as residents are advised to enroll and complete the correspondence course as it has become a virtual requirement for promotion to Lieutenant Colonel. Although the Officer Record Brief (ORB) does not distinguish whether the course was completed as a resident or by correspondence, there is a measure of prestige for those officers who are selected to attend the resident course.

The AAC model has incorporated this school in the career path. However, since the AAC officer will be single tracking in acquisition assignments at this point, some have suggested that the course be eliminated as a part of the AAC model. [Ref. 7:p. 7] This idea has been rather controversial, with strong factors established for both positions.

The Program Management (PM) course taught at the Defense Systems Management College (DSMC), Fort Belvoir, Virginia, is

the second school in the AAC model specifically geared for the AAC officer and is outside of the military schooling required for the operational officer. The course is six months in length and students come from all Services. Civilians, from both the private sector and Government are also able to attend. The program of instruction is designed to prepare the attendee to serve as a program manager. This course is required by law for an officer to serve as a certified program manager. [Ref. 8] The PM course has been discussed as a possible substitute for CGSC in meeting the Military Education Level Four (MEL-4) requirement for promotion to Lieutenant Colonel. Army attendees are usually Majors or junior Lieutenant Colonels between their twelfth and eighteenth year of service.

Using the premise that the AAC officer is accessed at the eighth year and immediately attends the MAM course and two years of graduate school, he now has between ten and eleven years of service before his first acquisition assignment. At current promotion points, he has approximately five to seven years to complete two acquisition assignments, each of three years in duration and eighteen months of school between CGSC and the PM courses. This is the basis for concern under which the following question of the value of resident CGSC has been discussed.

Question Four: Is CGSC necessary for the AAC officer, or are there better alternatives that could be used or developed to fulfill the MEL-4 requirement?

Eight officers (57%) believed that C&GSC should be included in the career path for an AAC officer and were opposed to changing policy and making the PM course a MEL-4 equivalent for AAC officers. This is consistent with current Army policy and the AAC career model. They stressed the importance of CGSC in giving them credibility with the user that they represent. The course was also mentioned as important to an understanding of the entire Army and the way it operates. One officer stated that when one is selected to attend CGSC, he does not know to which type of program he will be assigned. The course gives a broad appreciation of each of the branches and how they fit on the battlefield. Also cited as valuable by this group was the interaction between the students who go on to become the senior officers of the Army in all branches. The doctrine taught was said to be essential in briefings to various agencies that have an effect on a program's survival. Interviewees mentioned that even Army doctors and lawyers go to the school, thus it would be unwise to exclude AAC officers.

One officer who had attended both CGSC and the PM course said that there was no comparison and that CGSC was much more demanding. However, this same officer said that if the AAC officer does not go back to a basic branch assignment with troops as a Major, then there is much less need for CGSC. The

combat arms approach that the school teaches was cited as necessary for success as a program manager. Another officer noted that since the AAC officer left the traditional operational track as a Captain, the course would be necessary to learn and use doctrine.

Six officers (43%) were in favor of making the PM course a Military Education Level Four (MEL-4) equivalent and using it for members of the AAC instead of CGSC. The limited time for acquisition assignments was cited as the rationale. Also, one officer observed that spending a year learning how to maneuver a division around the battlefield is simply not a good use of the AAC officer's time. He further stated that it is important to remember the AAC officer's operational art is material acquisition which is what the PM course teaches. The officers holding this view thought it possible to extend the PM course to include essential items from CGSC.

The value of the Command and General Staff College course to the AAC officer is difficult to assess. A smaller number of the officers interviewed supported continued use of this course for the AAC officer than for the previously mentioned courses. All the officers interviewed had credit for MEL-4, most through resident attendance at CGSC. The important question is whether the year of resident attendance at this course is more valuable than a year's experience in an acquisition assignment. Currently, attendance at the resident CGSC has been incorporated into the AAC officer's career path.

Because the course is a requirement for promotion, only an official change in Army policy would allow for AAC officers to forego completing CGSC and still hope to achieve promotion to Lieutenant Colonel.

The interviewees were next asked:

Question Five: Was the DSMC PM course helpful to you; should it be required for AAC officers?

Thirteen officers (93%) said the PM course was extremely helpful for them in their jobs as program managers. One officer (7%) said he could only feel lukewarm about the course because he went to it directly from the Naval War College and was probably "burnt out" from that experience. He also stated that the course was too broadly focused to be of great help.

The thirteen officers who described it as extremely helpful had some important concerns. The most common issue was that the person attending should have previous working experience in acquisition assignments. A few of the officers had not worked in a program management office before attending and, although they felt it was a good course, they said it would have been much more beneficial had they had PMO experience.

One interviewee made an important point. He had served as a member of a product manager selection board which did not use the PM course as a requirement for selection. The board simply scheduled selected officers for the course before becoming a program manager. He believed the method should be continued.

The Defense Systems Management College Program Manager course enjoyed strong support among the PMs interviewed (93%). This course was viewed as necessary preparation prior to assuming duties as a PM. This is part of the current AAC model and credit for it, or an unnamed equivalent, is required by current law to assume duties as a program manager.[Ref. 8]

Unfortunately, completion of this course in and of itself does not yield MEL-4 credit. Once the officer enters the AAC, his operational art becomes primarily the field of materiel development. Because of this the PM course should become the way for the AAC officer to achieve the MEL-4 credit that is required for promotion to Lieutenant Colonel. This would have a few positive effects. First, it would allow more operational officers to attend the resident CGSC course through the separation of intermediate level schooling for AAC versus operational track Army officers. The limited number of slots for resident CGSC has been a concern. The vacancies created by those AAC officers who would have attended resident CGSC could be more effectively used by those officers who would remain in the operational track for the duration of their Army service. Secondly, the year that the AAC officer would have spent in CGSC could be more effectively utilized gaining experience in an acquisition assignment. Finally, it would allow the AAC officer to remain in his first acquisition assignment longer.

The highest level of military education is selection for Senior Service College (MEL-1). Officers who attend are selected by a board for both resident and correspondence methods of completing this level of education.

The Army War College is the primary source of MEL-1 Army officers but the Industrial College of the Armed Forces (ICAF) is also a MEL-1 school and more closely fits the AAC officer's needs.

Question Six: What course should AAC officers attend for MEL-1 credit?

Eleven officers (79%) said ICAF should be used for AAC officers to attain MEL-1 credit. Of these, six believed the AAC officer should only be sent to ICAF. The other five, although favoring ICAF, did not agree with restricting AAC officers to ICAF or preventing non-AAC officers from attending ICAF. Three officers (21%) had no preference with regard to which course was used for MEL-1 credit for AAC officers. The Industrial College of the Armed Forces (ICAF) appears to be the school of choice for the interviewees. There is no reason to prevent an operational track officer from attending ICAF but it should be related to his subsequent assignments.

**G. ISSUE FOUR: ARMY ACQUISITION CORPS VIABILITY**

All interviewees were asked if the AAC should evolve further, such as into its own basic branch. If the AAC were to become a branch, then officers could serve in the field upon their entry to active duty. The effect would be that an



officer's experience would be totally involved in the development and procurement of equipment. The officer would have no tie to, or experience in any of the existing basic branches.

Question One: Should the Army Acquisition Corps become a branch?

Thirteen officers (93%) stated the AAC should not become its own basic branch. They felt that experience in a warfare basic branch assignment was the best possible preparation for a young officer. One PM put it in perspective when he told the researcher that if the AAC became a basic branch the only difference between an Army officer and a civilian in the AAC would be the clothing they wear. The civilian would wear a suit and the officer would wear a uniform but there would be no difference in the background and experience that each would bring to their positions in the acquisition field. The possibility of a loss of credibility between the AAC officer and the traditional Army officer who represented an operational unit would be severely exacerbated. The common background between the AAC military personnel and the traditional operational Army personnel would be virtually eliminated resulting in a mistake of grave consequences.

One officer (7%) said he could see the AAC evolving into a branch and did not necessarily think this would be unhealthy.

The Army has not made the AAC a branch, thus AAC officers currently represent all basic branches of the Army. The

researcher is unaware of any plan or desire to make the AAC a basic branch now or anytime in the foreseeable future. However, there is precedent for such a concept. The Aviation Branch evolved from an alternate specialty (functional area) into a basic branch during the last ten years. Although this became somewhat of a controversial event, the Aviation Branch is now a basic branch and appears to be thriving in spite of much early resistance within the Army.

The AAC should not evolve into a basic branch. An overwhelming majority support this belief (93%). If an officer began his career as a Second Lieutenant in the AAC, he would have no operational experience. The user experience and grounding in the traditional Army mission that are so critical to the military officers currently working in the acquisition arena would be too limited.

The second viability question investigated the promotion opportunities for AAC officers. Promotion floors have been instituted for all AAC officers.

Question Two: Are promotion floors necessary for AAC officers?

Thirteen (93%) thought promotion floors were necessary. The general feeling was resistance exists to the AAC that could manifest itself through low promotion rates for AAC officers. The current Army policy is that promotion rates for AAC officers as a group will be no lower than the Army average. One officer said that every branch had promotion floors thus this was not a significant change from Army

policy. The one officer who believed AAC promotion floors was a bad idea thought that it would force the system to promote officers who should not be promoted.

The use of promotion floors for the AAC appears necessary. If the AAC is to succeed, young officers will have to believe that promotion opportunities in the AAC are not significantly lower than those for officers in the operational track. As the majority of the Army will continue the traditional career development path, it is reasonable to assume that representation on future Army promotion and school selection boards will be officers who have followed the Army operational track. However, selection boards considering AAC officers should have a member or members, whose number is proportional to the number of AAC officers being considered. The use of promotion floors should reduce if not eliminate, apprehension that AAC officers might have regarding a possible bias against them by board members from the operational track. The opportunity for promotion is just as important to an AAC officer as it is for the operational officer, and as such provides incentive for continued dedicated and professional performance. Any perception of reduced chances of promotion by virtue of becoming an AAC officer could be expected to harm the appeal of the AAC.

#### **H. ISSUE FIVE: ARMY ACQUISITION CORPS STRENGTHS AND WEAKNESSES**

In concluding each interview, the PMs were asked to give their assessment of the AAC in terms of strengths and weaknesses. It should be noted that only aspects mentioned by two or more interviewees are listed. The aspects of the AAC that they considered strengths are listed below, along with the number of interviewees that named each listing as a strength. In their view, the strengths of the AAC are:

1. Mutually exclusive command and program management career paths [seven officers (50%)]
2. The fully funded ACS program [five officers (36%)]
3. Promotion selection board floors [three officers (21%)]
4. PEO/PM command structure [two officers (14%)]
5. Quality of AAC officers [two officers (14%)]

The following AAC weaknesses were identified by the PM's:

1. Lack of historical foundation within the Army [six officers (43%)]
2. Insufficient number of PM office authorizations for Captains and Majors [four officers (29%)]
3. Doubt about the viability of the AAC [four officers (29%)]
4. Trend towards more civilian involvement [two officers (14%)]
5. Lack of an established career path for civilians [two officers (14%)]

The biggest strength of the AAC is that it is now the only career path to becoming an Army program manager. The clear separation of the path to program management and the path to operational command at the eighth year of service is necessary

and even essential. The fact that assignment as a board selected program manager is mutually exclusive with assignment as a board selected commander indicates that the Army considers both positions so important as to desire officer dedication to one position or the other for a significant amount of his career. Indeed, the most glaring weakness of the MAM program was that an officer need not have been a part of it as a prerequisite to becoming a program manager. Thus, the MAM program had an inherent credibility problem. The AAC as a program that is the only way to selection as a program manager does not continue to suffer from its predecessor's weakness. The AAC will produce better trained, educated, and dedicated officers than in the past. The soldiers whose very lives depend on their equipment deserve nothing less.

The biggest weakness of the AAC is simply a lack of historical foundation. The AAC has only been in existence since 1989. Therefore, because of its newness, doubt exists as to the AAC's chances for survival. However, Federal legislation such as the Defense Acquisition Workforce Improvement Act should ensure the AAC's continued survival and growth.

Insufficient program management office authorizations in manning documents for Captains and Majors is a clear weakness. This weakness should be corrected quickly by increasing the number of such authorizations. This will allow more AAC

officers to gain valuable experience that appears essential prior to assignment as an Army program manager.

## **I. SUMMARY**

This chapter presented the data gathered through the personal interviews conducted with fourteen Army program managers. The officers were informative and candid in their thoughts and feelings. They constitute a critical and credible source of information on how well the AAC is likely to address and solve the problems the Army has had in the past with its programs and policies for selecting, educating, and training its program managers.

This chapter also analyzed the AAC using the information presented in previous chapters to indentify the strengths and weaknesses of the AAC. The AAC model was in large part validated as effectively addressing the problems that previous Army programs had involving selection, education, and training of Acquisition Oriented officers. The few areas that require further study and action, along with conclusions and recommendations will be discussed in the next chapter.

## **V. CONCLUSIONS AND RECOMMENDATIONS**

### **A. SUMMARY**

The primary purpose of this thesis was to conduct an analysis of the Army Acquisition Corps as it applies to Army officers. The structure and the policies of the Army Acquisition Corps were examined in detail. The goal was to examine the career model and policies as they apply to Army officers. Specific issues pertaining to Army Acquisition Corps policies were identified and evaluated. Specific conclusions were then drawn and recommendations for improvement were made as appropriate. Research was conducted through review of literature dealing with military acquisition workforce issues and by personal interviews conducted with fourteen Army program managers. The following conclusions are based on the results of the PM interviews. A number of recommendations based on these conclusions are provided.

### **B. GENERAL CONCLUSIONS**

Based upon research, weaknesses with the Material Acquisition Management program have been addressed effectively by the structure and policies of the Army Acquisition Corps. The Army Acquisition Corps career development model is sound.

The Army Acquisition Corps model is a major institutional change and addresses many of the recommendations of the Packard Commission. It employs new innovations in personnel

management for those officers selected to become members. The Army Acquisition Corps employs more restrictive selection criteria, improves and standardizes both military and civilian education of its members, and uses repetitive assignments in acquisition related jobs to groom its members for critical acquisition assignments. Most importantly, the Army Acquisition Corps model is now the unique and exclusive path to program manager positions, demonstrating the Army's belief that separate career paths for operational officers and acquisition officers are necessary.

The Army Acquisition Corps is a concept which is timely and appropriate. The concept should be allowed to operate without significant change. Any major restructuring before the officers who are junior enough to complete the entire career path serve as program managers is premature. As with any new personnel program within an institution as old and traditional as the Army, resistance from the "old guard" is to be expected. The Army Acquisition Corps has been well planned and initiated and directly corrects problems that have existed in the career development of the Army's program managers.

#### **C. SPECIFIC CONCLUSIONS**

- 1) The volunteer and "draftee" combination is the best accession policy.

The Army Acquisition Corps should continue to use a combination of a "draft", for officers with desirable skills, and volunteers. Volunteers for the Army Acquisition Corps



should be screened. Also, if an officer has special skills or a background particularly suitable for the Army Acquisition Corps he should be drafted. The needs of the Army must come first. If a sufficient number of volunteer officers qualify, the Army Acquisition Corps should not draft.

- 2) The single tracking concept upon accession into the Army Acquisition Corps at the eighth year is necessary.

The idea of single tracking was supported by all the officers interviewed. Although, the majority favored single tracking after a branch assignment as a Major, elements of the minority position should also be considered. First and foremost, only by single tracking at the eighth year will officers of the Army Acquisition Corps have significantly more experience in acquisition assignments than their predecessors, who had to rotate between a branch assignment and an acquisition assignment. Secondly, with very few exceptions, there are no authorized positions for an officer at the rank of Major in company level units. The lowest level unit that includes authorization for a Major is the battalion. The staff jobs for a Major in a battalion, although certainly user related, are focused more on performing staff work than direct user experience. Finally, with positions for Majors in user units coveted by operational officers aspiring to command, it is highly unlikely that an Army Acquisition Corps officer would be assigned to these positions at the expense of his operational colleague. Therefore, due to the studies that

call for more acquisition experience prior to assignment as a program manager, and the doubtfulness that an Army Acquisition Corps officer would gain direct user experience, the concept of single tracking at the eighth year appears more viable.

- 3) Specific assignments in key development positions should be included in the career paths of Army Acquisition Corps officers.

The position identified as best preparing an officer for duties as a program manager was that of Assistant Program Manager (APM). The next best developmental position identified by the PM's was operational or developmental testing. Additionally, positions within the Office of the Assistant Secretary of the Army for Research, Development, and Acquisition or the Office of the Deputy Chief of Staff for Operations were identified as excellent developmental experience, providing they are directly related to acquisition. Finally, an assignment to a procurement command working in a functional directorate supporting a program management office is was recommended for good developmental experience.

- 4) The Army Acquisition Corps should be available to officers regardless of undergraduate degree or major, and the use of the Advanced Civil School program should be provided for all Army Acquisition Corps officers.

The only consideration of an Army Acquisition Corps officer's undergraduate record need be the likelihood of graduate school admission. The skills and mental discipline to earn an advanced degree are fundamental to success as a

program manager. The most useful graduate field of study identified was management.

- 5) The military education provided by a branch basic course, advanced course, and the Combined Arms and Services Staff School is essential for all Army Acquisition Corps officers. The military schools that follow these require review to determine which are truly essential for the Army Acquisition Corps officer.

The program managers interviewed unanimously supported use of a basic and advanced course along with the Combined Arms and Services Staff School. The Material Acquisition Management (MAM) course effectively serves the Army Acquisition Corps. However, the MAM course is necessary only if the officer has had no previous assignment in acquisition. The Command and General Staff College (CGSC) course is not viewed as being as useful to the Army Acquisition Corps officer as the Defense Systems Management College (DSMC) Program Manager (PM) course. Presently, CGSC is the primary route to Military Education Level four (MEL-4), and was viewed as a requirement for promotion to Lieutenant Colonel. The PM course does not yield MEL-4 credit by policy, yet it is required to assume duties as a program manager. The primary route to MEL-1 for Army officers is completion of the Army War College. The Industrial College of the Armed Forces (ICAF) course should best serve the needs of the Army Acquisition Corps officer.

- 6) The Army Acquisition Corps should not become a basic branch.

The operational experience that an Army officer brings to the Army Acquisition Corps is absolutely critical. The eight years that Army officers serve before accession into the Army Acquisition Corps should give them credibility with the traditional operational officer. This credibility comes from a common bond of military schooling and operational assignments. The user identification is sometimes lacking with civilian acquisition personnel.. A strong link must exist between those using the equipment and those responsible for its development, otherwise the user's needs may not be represented.

#### D. RECOMMENDATIONS

Based on the analysis of the Army Acquisition Corps presented in Chapter IV, and the conclusions drawn, the following are recommended:

- 1) Officers' records should be screened during accession to ensure that each officer recommended for the Army Acquisition Corps has a model series of assignments within his branch. Additionally, only officers that have an undergraduate record that will allow admission to a graduate program should be nominated.
- 2) More authorizations for Assistant Program Managers (APMs) should be created. The proponent office of the Army Acquisition Corps, in conjunction with the office of the Army Acquisition Executive, should revise authorization documents to include as a minimum, authorization for one APM at the rank of Major for each Army program manager.
- 3) The Army Acquisition Corps should continue to afford all officers the opportunity to attend fully funded graduate schooling, primarily for management degrees.

- 4) The basic and advanced course for each branch should include a formal block of instruction on the Army Acquisition Corps career model. Because each branch is represented in the Army Acquisition Corps, it is important that officers be aware of its existence. Additionally, since only a few functional areas are eligible for the Army Acquisition Corps and functional area designation takes place between the fifth and sixth year, the education must be early in the officer's career.
- 5) The Defense Systems Management College (DSMC) Program Manager (PM) course should be made a Military Education Level four (MEL-4) equivalent. The Department of the Army, in conjunction with the Defense Systems Management College, should authorize graduation from the DSMC PM course to fulfill the MEL-4 requirement. Additionally, the Defense Systems Management College should develop the course in a correspondence format to allow for an increase in the number of officers who can benefit.
- 6) Army Acquisition Corps officers should be directed to the Industrial College of the Armed Forces (ICAF), which grants MEL-1 credit.
- 7) The Army Acquisition Corps must be allowed to stabilize and mature without major changes. The officers of Year Group 1983 are the first that will have experienced the complete career development path. Thus, they will be program managers in the year 2000. The Army Acquisition Corps is fundamentally sound, but only if it is allowed to survive will its improvements be realized.

#### **E. AREAS FOR FURTHER RESEARCH**

The following areas are related to this thesis and warrant further research:

- 1) The Army Acquisition Corps is composed of both military and civilian personnel. The career development path for civilian personnel is much less clear than that for the military. Research is necessary to build a civilian career model leading to assignment as a program manager.
- 2) The sample size of officers used as the basis for this thesis is relatively small. A similar research effort using a different set of interviewees is warranted and would be useful for comparison purposes

- 3) The private sector has personnel who serve as program managers. Research into industry program manager selection, education, assignments, and training would also be useful for comparative analysis.

## **APPENDIX A**

### **OFFICERS INTERVIEWED**

Product Manager, M270 Family of Munition (MFOM) Command and Control (C2)/Fire Direction Data Manager (FDDM)  
PEO, Fire Support  
Redstone Arsenal, AL  
Interview Granted: 18 October 1991

Product Manager, Advanced Field Artillery Tactical Data Systems (AFATDS)  
PEO, Command and Control Systems  
Fort Monmouth, NJ  
Interview Granted: 2 October 1991

Product Manager, Army Tactical Missile System Block II (ATACMS-BLKII)  
PEO, Fire Support  
Redstone Arsenal, AL  
Interview Granted: 18 October 1991

Product Manager, Paladin (PAL)  
PEO, Armaments  
Picatinny Arsenal, NJ  
Interview Granted: 4 October 1991

Commander/Director Fire Support Armaments Center  
CDR, Armament Research, Development, and Engineering Center (ARDEC)  
Picatinny Arsenal, NJ  
Interview Granted: 3 October 1991

Project Manager, Advanced Field Artillery System (AFAS)  
PEO, Armored Systems Modernization (ASM)  
Picatinny Arsenal, NJ  
Interview Granted: 3 October 1991

Product Manager, Lightweight Tactical Fire (LTACFIRE) Forward Entry Device (FED)  
PEO, Command and Control Systems  
Fort Monmouth, NJ  
Interview Granted: 2 October 1991

Project Manager, Army Unmanned Aerial Vehicles (AUAV)  
PEO, Cruise Missiles Project and Unmanned Aerial Vehicles  
Joint Project  
Redstone Arsenal, AL  
Interview Granted: 16 October 1991

Project Manager, Multiple Launch Rocket System (MLRS)  
PEO, Fire Support  
Redstone Arsenal, AL  
Interview Granted: 15 October 1991

Product Manager, Fire Support Ada Conversion (FSAC)  
PEO, Command and Control Systems  
Fort Monmouth, NJ  
Interview Granted: 30 September 1991

Project Manager, Field Artillery Tactical Data Systems (FATDS)  
PEO, Command and Control Systems  
Fort Monmouth, NJ  
Interview Granted: 2 October 1991

Project Manager, Sense and Destroy Armor (SADARM)  
PEO, Armaments  
Picatinny Arsenal, NJ  
Interview Granted: 4 October 1991

Product Manager, Multiple Launch Rocket System Sense and  
Destroy Armor (MLRS-SADARM)  
PEO, Fire Support  
Redstone Arsenal, AL  
Interview Granted: 18 October 1991

Product Manager, Firefinder  
PEO, Intelligence and Electronic Warfare  
Fort Monmouth, NJ  
Interview Granted: 30 September 1991



#### LIST OF REFERENCES

1. A Quest for Excellence by David Packard, Chairman. Washington: Government Printing Office, 1986.
2. Fox, J. Ronald, with Field, James L., The Defense Management Challenge: Weapons Acquisition. Boston: Harvard Business School Press, 1988.
3. General Accounting Office Report to the Chairman, Subcommittee on Oversight of Government Management, Committee on Governmental Affairs, U.S. Senate, Strengthening Capabilities of Key Personnel in Systems Acquisition, May, 1986.
4. Nidel, LTC Richard D. Sr., "The Evolution of the Army Acquisition Corps".
5. United States Army. "Information Paper dated 9 August, 1990, Subject: Army Acquisition Corps (AAC). TAPC-OPB-C.
6. Army Acquisition Corps Management Office, "Information Paper dated 30 April, 1991, Subject: The Army Acquisition Corps.
7. Bramlette, LTC Larry J., "Preparing and Managing Program Managers" Student Essay. The Army War College, 10 April 1986.
8. The Congressional Record, House. October 23, 1990. TITLE XII-DEFENSE ACQUISITION WORKFORCE. Defense Acquisition Workforce Improvement Act.

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9. LTC Paul J. Dixon, OD, USA PEO, Command and Control Systems Fort Monmouth, NJ 07701	1
10. LTC Steven W. Flohr, OD, USA PEO, Fire Support Redstone Arsenal, AL 35898	1

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| 11. LTC William R. Hertel, FA, USA<br>PEO, Araments<br>Picatinny Arsenal, NJ 07806   | 1 |
| 12. COL Gerard G. James, FA, USA<br>CDR, Armament Research, Development,<br>and Engineering Center (ARDEC)<br>Picatinny Arsenal, NJ 07806        | 1 |
| 13. COL David A. Napolliello, FA, USA<br>PEO, Armored Systems Modernization (ASM)<br>Picatinny Arsenal, NJ 07806                                 | 1 |
| 14. LTC William B. Sheaves III, FA, USA<br>PEO, Command and Control Systems<br>Fort Monmouth, NJ 07701   | 1 |
| 15. COL Stanley J. Souvenir, AD, USA<br>PEO, Cruise Missiles Project and<br>Unmanned Aerial Vehicles Joint Project<br>Redstone Arsenal, AL 35898 | 1 |
| 16. COL William S. Taylor, OD, USA<br>PEO, Fire Support<br>Redstone Arsenal, AL 35898  | 1 |
| 17. LTC James D. Vickrey, FA, USA<br>PEO, Command and Control Systems<br>Fort Monmouth, NJ 07701   | 1 |
| 18. COL Aubrey White, FA, USA<br>PEO, Command and Control Systems<br>Fort Monmouth, NJ 07701   | 1 |
| 19. COL Richard C. Williams, IN, USA<br>PEO, Armaments<br>Picatinny Arsenal, NJ 07806  | 1 |
| 20. LTC Jack L. Wolfe Jr., OD, USA<br>PEO, Fire Support<br>Redstone Arsenal, AL 35898  | 1 |
| 21. LTC Paul E. Wolfgramm, SC, USA<br>PEO, Intelligence and Electronic Warfare<br>Fort Monmouth, NJ 07701  | 1 |